IEEE CBMS 2009
22nd IEEE International Symposium on COMPUTER-BASED MEDICAL SYSTEMS

Special Track

KNOWLEDGE DISCOVERY AND DECISION SYSTEMS IN BIOMEDICINE (KDDSB09)

http://www.unicampus.it/KDDSB09/

Track Chairs

Mykola Pechenizkiy
Eindhoven University of Technology, the Netherlands

Seppo Puuronen
University of Jyvaskyla, Finland

Paolo Soda
Università Campus Bio-Medico di Roma, Italy

Francesco Tortorella
Università degli Studi di Cassino, Italy

Alexey Tsymbal
Siemens AG, Germany

Track Committee

For the complete list of Committee members please refer to the website

Important dates

Paper Submission
April 1, 2009

Notification of acceptance
May 25, 2009

Camera-ready paper
June 21, 2009

Symposium
August 3-4, 2009
Albuquerque
New Mexico, USA

Contacts

m.pechenizkiy@tue.nl
p.soda@unicampus.it

The vast amount of data generated by biomedical devices or retrieved from archives motivates the development of tools that are able to handle, analyse and make use of it in a computer-supported fashion.
On the one side, data mining has become a popular and effective way of discovering new knowledge from large and complex data sets, and particularly, medical data sets. Advances in data mining research and technology have made it possible to solve many interesting problems in medical diagnostics and healthcare.
On the other side, computer-based systems supporting the medical decisions have got many research efforts. These systems can pursue different objectives, such as pre-selecting the cases to be examined, serving as a second reader or working as a tool for training and education of specialized medical personnel. Currently, the development of versatile systems applicable to different working scenarios is a major issue. Indeed, they call for careful design of data processing methods as wells as the definition of decision rules. To the same extent, the definition of performance evaluation criteria is mandatory to ensure that such systems work safely and profitably.
This special track aims at bringing together researchers in the multi-disciplinary area of knowledge discovery and computer-based decision systems in biomedicine, and at providing a forum for the presentation and discussion of their research activities. Engineers, scientists, psychologists, clinicians and computer and cognitive scientists, as well as research project managers involved in such medical projects are encouraged to submit papers to this special track.

The topics of interest will include but will be not limited to:
- Classification, clustering and association analysis for biomedicine
- Recognition and biomedical imaging for knowledge discovery and decision support
- Feature extraction, selection and transformation for biomedical data
- Computer aided diagnosis
- Decision support systems in biomedicine
- Diagnostic systems based on information fusion
- Data streams and longitudinal data analysis
- Mining biomedical data with time- and context-changing patterns and data distributions
- Mining complex heterogeneous biomedical data including signals, images, clinical data, genomic and proteomic data
- Retrieval of complex biomedical data
- Performance evaluation, ROC curve, accuracy measure and assessment, error cost analysis and risk minimization
- Cost-sensitive data mining
- Visualization, evaluation and interpretation of data mining results
- Visualization of clinical data and visual data mining
- Knowledge-driven data mining approaches
- Case studies based on large medical databases
- Machine learning and data mining tools in medical applications
- Knowledge Discovery for personalisation and adaptation of medical information systems and services
- Medical knowledge elicitation, representation and integration in computer-based medical systems.

Submitted papers have to be original, containing new and original results. Electronic manuscripts (PDF file of at most six Letter-size pages in the IEEE CS Press 8.5x11-inch 2-column format) should be submitted via EasyChair at http://www.easychair.org/conferences/?conf=ieeecbms2009 (please select Special Track on Knowledge Discovery and Decision Systems in Biomedicine).